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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,165	03/15/2002	Hiroshi Ohta	2589-15	2902

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EXAMINER
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COLE, LAURA C

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/088,165

Applicant(s)

OHTA ET AL

Examiner

Laura C Cole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3-02,10-3 . 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. In the Information Disclosure Statement of 29 October 2003, there is a Foreign Patent Document listed that is a duplicate to a Foreign Patent Document of the 15 March 2002 Information Disclosure Statement. Therefore, GB 2 344 278 A of the 29 October 2003 has a line drawn through it.

### ***Drawings***

2. Figures 8-10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 1-12 are objected to because of the following informalities:

Claim 1 Lines 5-9 are somewhat confusing by the comma placement and grammar. In Line 7 does the lid or the dust collection chamber "have an exhaust port"? In Line 8, what is meant by "for opening and closing the dust collection chamber"?

Claim 3 Lines 5-9 are somewhat confusing by the comma placement and grammar. In Line 5 what is meant by "having an inlet port"? In Line 6 what is meant by "for collecting separate dust"?

Claim 3 Line 8 is the word "steam" meant to be "stream"?

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 6, 9, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Oh et al., US 2001/0054213.

Oh et al. disclose the claimed invention including a vacuum cleaner comprising a nozzle, an electric blower, a suction air passage (all of these elements described in the figures and in Page 2 paragraphs [0037]–[0038]), and a cyclone dust collector (15) that comprises an inlet port (21), a lid (20), an exhaust port (23), a handle for opening and closing the chamber (31), an exhaust cylinder (25) detachably fitted to the exhaust port (they are both detachable from the main portion (see Figure 2)), and a shielding member (33, 53). The shielding member has a circular shape and arranged in the dust collection chamber with a gap secured from an inner wall (see 33 in Figure 3) and a protruding portion formed to protrude downward from a periphery of the circular portion (the protruding portion being the bottom most lip portion of 33). The cyclone dust collector is integrally detachable from the suction passage (see paragraph [0058]).

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5. Claims 1, 3, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Douma et al., USPN 6,090,174.

Douma et al. disclose the claimed invention including a vacuum cleaner comprising a nozzle, an electric blower, a suction air passage (all of these elements described in Figure 1 and in Column 4 Lines 18-50), and a cyclone dust collector (11, 79) that comprises an inlet port (13), a lid (49), an exhaust port (15), an exhaust cylinder (19) detachably fitted to the exhaust port (see Figure 5, lid (49) is not integral with the portion (81)), and a shielding member (89, 93). The shielding member has a circular shape and arranged in the dust collection chamber with a gap secured from an inner wall (see Figure 5, there is a gap between the side inner wall and the member (93)) and a protruding portion formed to protrude downward from a periphery of the circular portion (the side (91) protrude downwards). The shielding member has a plurality of shielding ribs (89) arranged radially on a bottom surface of the circular portion (see Figure 5).

6. Claims 1, 3, 9, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Yung, USPN 6,269,518.

Yung discloses the claimed invention including a vacuum cleaner comprising a nozzle, an electric blower, a suction air passage (all of these elements described in Figure 2 and in Column 2 Line 65 to Column 3 Line 24), and a cyclone dust collector (16) that comprises an inlet port (46), a lid (82), an exhaust port (84), a handle for opening and closing the chamber (shown in Figure 7, unlabeled; Column 3 Lines 46-53), an exhaust cylinder (34) detachably fitted to the exhaust port (Column 4 Lines 40-

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52), and a shielding member (70 or bottom wall (36) that forces the air to change directions and velocity, thereby releasing dust (Column 5 Lines 30-38). The cyclone dust collector is integrally detachable from the suction passage (Column 3 Lines 46-53).

7. Claims 1, 3-7, 9, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Song et al., USPN 6,195,835.

Song et al. disclose the claimed invention including a vacuum cleaner comprising a nozzle, an electric blower, a suction air passage (all of these elements described in Figure 2 and in Column 6 Lines 20-44), and a cyclone dust collector (10) that comprises an inlet port (11), a lid (22), an exhaust port (12), means for opening and closing the chamber (43), an exhaust cylinder (50) detachably fitted to the exhaust port (Column 8 Lines 49-56), and a shielding member (60, 70). The exhaust cylinder and shielding member are integrally detachable from the dust collection member (as shown in Figures 3, 6, 8, and 10). The exhaust cylinder is arranged above the shielding member and substantially on a center line of the dust collection chamber (see Figures 5, 7, 9, and 11). The shielding member has a circular portion having a substantially circular shape (see Figures) and arranged inside the dust chamber with a gap (see Figures) and a protruding portion (protruding portion may be the lip 60' of Figure 7 or the protruding bristles 70 of Figure 8). The shielding member has a plurality of shielding ribs being arranged radially on a bottom surface of the circular portion (the bristles of the brush serve as a plurality of shielding ribs, see Figure 8). The cyclone dust collector is integrally detachable from the suction passage (by connecting portions 3b and 12b).

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8. Claims 1, 3, 9, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Wright et al., USPN 6,026,540.

Wright et al. disclose the claimed invention including a vacuum cleaner comprising a nozzle, an electric blower, a suction air passage (all of these elements described in Figures 1-3 and in Column 2 Lines 19-58), and a cyclone dust collector (52) that comprises an inlet port (80), a lid (50; see Figure 8), an exhaust port (60), means for opening and closing the chamber (Column 5 Lines 41-64), an exhaust cylinder (H) detachably fitted to the exhaust port (fits into housing 50b), and a shielding member (outer body of 50b). The cyclone dust collector is integrally detachable from the suction passage (Column 5 Lines 41-64).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al., USPN 6,195,835 in view of Conrad et al., USPN 6,228,151.

Song et al. disclose all elements above however do not disclose a projection rib between two adjacent shielding ribs.

Conrad et al. disclose a cyclone separator that includes a vacuum cleaner comprising a nozzle, an electric blower, a suction air passage (see Figure 4), and a dust collection chamber (30) having an inlet port (34), an exhaust port (40), and a shielding member (50). The shielding member (50) includes projection ribs protrude from the inner wall of the dust collection chamber toward a center (see Figures). Further, the shielding member (50) serves to "separate cyclonic air flow from a bottom" (Column 6 Lines 31-35; see also Column 4 Lines 53-64).

It would have been obvious for one of ordinary skill in the art to modify Song et al. and have employ the teaching of Conrad et al. by having ribs protrude from the inner wall towards the center of the dust collection chamber in order to further separate dust and debris from the air.

10. Claims 2, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al., USPN 6,195,835 in view of Buscher, USPN 5,907,886.

Song et al. discloses all elements above however does not include exhaust cylinder or dust collector detecting means that control the electric blower.

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Buscher discloses a vacuum cleaner that has detecting means that determine the placement of vacuum cleaner filter bags and as a result controls the vacuum from switching on if the filter bag is not properly detected (see Abstract).

It would have been obvious for one of ordinary skill in the art to modify Song et al. by placing detection means, such as the ones that Buscher teaches, on the dust collector or exhaust cylinder in order to determine the correct placement of those devices, since both the filter of Buscher and cyclone device of Song et al. both are provided in an air stream to separate dust or pollutants from the air.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 6,616,721 to Oh discloses a cyclone dust collector that has protrusions on a bottom surface.

USPN 5,604,954 to Webster et al. discloses a blower-vacuum device that has actuating means that locks the attachment in place when the motor is operating for safety reasons.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (571) 272-1272. The examiner can normally be reached on Mondays through Thursdays, and alternating Fridays, from 7:30 am to 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden, can be reached at (571) 272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*LCC*

LCC

12 February 2004

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